

# Access to Vocational Rehabilitation: The Impact of Race and Ethnicity

*J. Martin Giesen, Brenda S. Cavenaugh, and William K. Sansing*

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**Abstract:** This study, of racial and ethnic minorities' access (application and entry) to the state-federal vocational rehabilitation (VR) system, found that access percentages were higher for African Americans, lower for Whites, and about the same for Hispanic Americans relative to the percentages of persons of the same race and ethnicity who are visually impaired in the national population. It concluded that the socioeconomic disadvantages of African Americans who are visually impaired increase their need to access VR relative to Whites who are visually impaired.

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The participation of racial and ethnic minorities in the state-federal vocational rehabilitation (VR) service delivery system has been of substantial interest to rehabilitation researchers and policy makers for more than two decades. Consumers of VR services participate in a sequential process. This process can be investigated at various stages—the initial application, acceptance, delivery of services, closure, and beyond—and the effects of racial and ethnic minority status may influence equitable participation at multiple stages of this process. This study included consumers who were visually impaired (that is, those who were blind or had low vision) who accessed VR, including those who were not accepted for services. Access was defined as having applied for or entered the VR system. Thus, the study examined the role of race and ethnicity on a national scale for visually impaired persons who accessed services under the Title I (VR services) program.

Racial and ethnic groups, in comparison with Whites, were reported in Section 21 of the 1992 Rehabilitation Act Amendments to experience higher rates of growth in the general population and higher rates of disability. They were also reported to be less likely than were Whites to be accepted for VR services, receive training, and be rehabilitated. Consequently, funding was appropriated for programs, authorized under Titles II, III, VI, and VII of the Rehabilitation Act of 1973, as amended, to improve VR services and increase

outreach to racial and minority groups. Studies that have been conducted both before and after Section 21 was implemented have generally focused on the experiences of individuals from racial and ethnic groups *after* they have entered the VR process, rather than on the access or application rates of these groups. For example, several researchers have compared acceptance rates (Capella, 2002; Cavenaugh & Giesen, 2003; Hayward & Schmidt-Davis, 2002; Wilson, 2000; Wilson, Harley, & Alston, 2001), patterns of services (Moore, 2002; Wheaton, Finch, Wilson, & Granello, 1997), and outcomes of minority and White consumers (Capella, 2002; Feist-Price, 1995; Herbert & Martinez, 1992). Although state VR agencies must have an approved state plan that documents activities to identify and serve racial and ethnic groups, recent studies have not focused on the difficult question of whether minorities apply for VR services at rates that are proportionate to their number in the general population. Furthermore, no study was found that controlled for a higher prevalence of disability among individuals from racial and ethnic groups.

In what may have been the earliest investigation of minority participation in VR, Wilkerson and Penn (1938) analyzed data from VR consumers from 16 southern and 7 northern states whose cases were closed as "rehabilitated" in 1937. They found substantially lower rates of African Americans with successful rehabilitation outcomes than the percentage of African Americans in the general population. Although the

percentage of African Americans in the general population was reported at that time to be 25% in the southern states and 4% in the northern states, Wilkerson and Penn found that only 8% and 3% of the rehabilitated consumers, respectively, were African American.

There was an absence of related research for more than four decades following Wilkerson and Penn's (1938) study. Then, Atkins and Wright (1980) conducted a landmark national study that concluded that African American consumers, when compared with White consumers, received unequal treatment throughout the VR process, including not being as likely to be accepted for VR services. However, they did not address racial differences in rates of access (such as the initial application) to VR.

Bolton and Cooper (1980) responded to Atkins and Wright's (1980) findings of lower acceptance rates by noting that African Americans made up 22.9% of all consumers who were accepted for VR services, whereas their percentage in the general population was estimated to be 11.6%. They also suggested that given the higher disability rates and lower economic status of African Americans, African Americans would be expected to be in greater need of VR services than would Whites. This expectation has been supported, in part, by findings that race and ethnicity, along with age, education, income, living arrangements, and gender, are major predictors of disability (Smart &

Smart, 1997).

Several studies have investigated the early stages of the VR process. Using data from the U.S. Census Bureau and Rehabilitation Services Administration (RSA) from a midwestern state, Dziekan and Okocha (1993) found that racial and ethnic minorities applied for services at a rate of 12.9%–7.8% higher than their representation in the population of that state. They interpreted the higher application rates of minorities to be a reflection of a higher prevalence of disability in minority populations. Patterson, Allen, Parnell, Crawford, and Beardall (2000), using data from a southeastern state, found that the percentage of African Americans who applied for VR services was higher than that in the general population (22% versus 14%). They also suggested that higher application rates were indicative of higher rates of disability among African Americans.

In an investigation of the race and ethnicity of providers and consumers of VR services in two southeastern states, Giesen et al. (1995) reported that the percentage of African American VR consumers with visual impairments was about 5% higher than the percentage of African Americans in the general population (34% versus 29%). Giesen, McBroom, Gooding, Ewing, and Robertson (1996) then compared data from the U.S. Census Bureau with national RSA data and also found that African Americans with visual impairments had a higher proportional representation

among VR consumers. This higher representation in VR does not extend to the Title VII, Chapter 2, independent living program for older blind consumers, in which minorities are reported to be underrepresented relative to their proportions in the general population (Moore & Sansing, 2003).

In summary, at least in the past two decades, research has indicated that racial and ethnic groups, particularly African Americans, have accessed and have been accepted for VR services at higher rates than their representation in the general population. However, previous research has only speculated that the elevated application rate was due to a greater prevalence of disability. No studies that have compared the access or application rates of racial and ethnic minority groups with their percentages in the population have controlled for this higher prevalence of disability. Previous research has not provided the appropriate comparison group; the profile of total access or application rates by race and ethnicity should be compared with the profile of persons *with the appropriate corresponding disability* in the general population. Thus, the purposes of the study reported here were (1) to extend the investigation of racial and ethnic differences in access to VR by reassessing total access with current national data, (2) to provide an appropriate reference group to take differential prevalence rates of visual impairments into account by using national data on persons with visual impairments (from the National Health Interview Survey, Disability

Supplement, hereafter NHIS-D), and (3) to determine if visually impaired individuals from ethnic and racial groups are accessing the state-federal VR program in proportions that are commensurate with their presence in the population of persons who are visually impaired.

## **Method**

### **Sources of data**

This study used data from the 1994 and 1995 NHIS-D, Phase 1, to provide national estimates of the percentages of the population with visual impairments (U.S. Department of Health and Human Services, 1996, 1998). RSA-911 national data for 1999 were used to provide rates of access to VR.

### **NHIS-D**

The NHIS-D, a supplemental survey of the NHIS, was conducted in 1994 and 1995. The NHIS series, conducted since 1969 by the National Center for Health Statistics, provides for continuous sampling and interviewing of the civilian, noninstitutional population of the United States through core surveys and supplemental data sets. It is the principal source of information on the health of the civilian noninstitutionalized U.S. population (excluding those in the U.S. territories) (Benson & Marano, 1995). The NHIS-D was conducted to provide policy-relevant data on disabilities. It used a multistage probability design,

is nationally representative, and had a response rate of 93%. The NHIS-D was conducted in two phases. Phase 1 was administered at the same time as the NHIS core. The Phase 1 disability questionnaire elicited information on disability and was used as a screening device for Phase 2, which was a follow-up survey of individuals with disabilities. In the Phase 1 questions related to vision, the respondents were asked whether anyone in the household had "SERIOUS difficulty seeing even when wearing glasses or contact lenses." In follow-up questions, the respondents were asked if they are legally blind and if they expected "to have SERIOUS difficulty seeing, for at least the next 12 months." Both categories of visual impairment were included in the analysis; however, the respondents who did not expect their visual impairments to last more than 12 months were included with those who reported that they did *not* have serious difficulty seeing. For the present study, cases were restricted to ages 18 to 65 ( $N = 121,847$ , unweighted count).

### **RSA-911 data**

We examined data from the case records of 23,346 individuals aged 18–65 with a major disability of legal blindness (RSA codes 100–119) or visual impairment (RSA codes 120–149) that were closed in any status by state-federal VR agencies in the United States (excluding the territories) during fiscal year (FY) 1999. The FY 1999 database was chosen because it was the latest one available when the analysis was begun.

Cases from the territories were excluded (less than 0.1%) because the comparison data from the NHIS-D did not include data from the territories. State identifiers were used to construct a regional variable to enable breakouts by the four census regions.

## Procedure

### *Coding of race and ethnicity*

The RSA-911 data file contained the variable race with code categories: White, Black, American Indian or Alaskan Native, and Asian or Pacific Islander. These code groups are defined in the *Reporting Manual for the Case Service Report* (RSA-911) (RSA, 1995). Hispanic origin was coded for a person who was or was not of Hispanic origin. "A person is considered to be Hispanic if he or she is of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin" (RSA, 1995, p. 5). Mutually exclusive racial and ethnic categories were created: White, African American, Native American, and Asian or Pacific Islander (all non-Hispanic), and Hispanic of any race.

The NHIS-D contains detailed information on racial and ethnic categories. For race, there are 16 categories, plus "multiple race" and "race unknown." For Hispanic origin, there are 8 Hispanic categories, a "not Spanish origin" category, and an "unknown if Spanish origin" category. These two variables were used to construct a

new race and ethnicity variable that corresponded as nearly as possible to the race and ethnicity coding in the RSA-911 data. The categories were White, African American, Native American, Asian or Pacific Islander, unknown (all non-Hispanic), and Hispanic of any race.

## Analysis

The analysis consisted of generating cross-tabulations of the NHIS-D data to obtain percentage distributions of persons with visual impairments by vision status (legally blind, visually impaired), race and ethnicity, gender, and region. These analyses used weighted data to provide estimates of the national percentage distribution by race and ethnicity of persons with some type of visual impairment. Similar cross-tabulations were computed for RSA-911 data on the national population for FY 1999. These analyses provided the national percentage distribution for those who had accessed the VR system.

Given that the NHIS-D is a nationally representative survey, that the RSA-911 data can be considered a population—not a sample—for a given year, and that both sources of data are based on large numbers of cases, derived percentages were reported in a descriptive fashion. Differences in percentages were evaluated in terms of the magnitude of differences (effect sizes). Inferences of the importance of differences (practical significance) can be made directly from observed effect sizes. Nonetheless, to

make this approach more convincing, selected differences in percentages between the NHIS-D and the RSA-911 data were tested for statistical reliability (significance) using a  $z$ -test for the difference between proportions using actual (unweighted)  $N$ s.

## Results

### Distribution of the population

As is shown in [Table 1](#), for those who were classified as legally blind or visually impaired in the NHIS-D, most were White. African Americans and Hispanic Americans constituted the next largest groups, and Asian Americans and Native Americans were the smallest groups. Hispanic Americans who were visually impaired made up a slightly higher percentage (12%) than did those who were legally blind (10%).

### Access to VR

The racial and ethnic distribution of those who had accessed VR (based on RSA-911 data) showed the same general pattern as that found for those in the general population who were legally blind or visually impaired (see Table 1). Again, with respect to access, visually impaired Hispanic Americans made up a higher percentage (13%) than did those who were legally blind (9%).

A comparison of the distributions within racial and

ethnic group and vision status indicated that for those who were legally blind, the percentage of Whites with access to VR (RSA-911 data) was 7% lower than the percentage of legally blind Whites in the national population (NHIS-D),  $z = 2.93, p = .0034$ . This difference indicated a relatively lower representation of persons who were legally blind and White who accessed VR. For legally blind African Americans, access was 9% higher than the percentage of legally blind African Americans in the national population ( $z = 4.26, p = .00002$ ), indicating a relatively higher representation of legally blind African Americans who accessed VR. For legally blind Native Americans, Asian Americans, and Hispanic Americans, the percentages of those in the population who were legally blind and those with access to VR were almost identical, indicating that the proportion of these groups with access to VR was essentially equal to the proportion of these groups in the population who were legally blind. This finding for Native Americans and Asian Americans is advanced cautiously because of an insufficient underlying sample size (fewer than 20) for NHIS-D estimates.

Similar comparisons for those who were visually impaired indicated that Whites had a lower representation (6%,  $z = 4.89, p < .00002$ ) and African Americans had a higher representation (8%,  $z = 7.61, p < .00002$ ) regarding access to VR relative to their corresponding percentage of the population who are visually impaired. Relative representation was similar

for visually impaired Native Americans, Asian Americans, and Hispanic Americans, indicating that access to VR for these groups essentially was equal to the percentage of these groups in the general population with visual impairments.

## Gender differences

Gender differences were examined for access to VR and relative to the percentages in the general population with visual impairments because striking racial-gender differences have been reported for the receipt of services and outcomes by VR clients who are legally blind (Giesen & Cavenaugh, 2003). For access, percentages were generally similar between the sexes across racial and ethnic groups for both the clients who were legally blind and those who were visually impaired, with some small exceptions. Both for those who were legally blind and those who were visually impaired, access rates for White men were slightly higher (2%–4%) than for White women. For African Americans, access rates for women were slightly higher (2%–4%) than for men. The population distribution versus access percentage comparisons within gender were of a similar size and followed the same pattern as that reported overall: lower access rates (lower representation) for Whites and higher access rates (higher representation) for African Americans.

## Regional variation

For completeness, data were examined by the four U.S. census regions. Some variation was expected and found by region, particularly regarding the geographic distribution of racial and ethnic groups. In general, the same trends were found within regions as were found overall with respect to the population distribution versus the access percentage comparisons.

## Discussion

A major finding of this investigation was that African Americans who are legally blind or visually impaired are accessing the state-federal VR system at a higher percentage rate than their percentage in the general population of those who are legally blind or visually impaired. In addition, persons who are White and legally blind or visually impaired are accessing VR at a lower rate than their percentage in the general population of persons who are legally blind or visually impaired. The former finding is consistent with previous research that reported that the percentage of African Americans in the VR system is higher than their percentage in the general population without regard to visual impairment status. Furthermore, these patterns held within gender groups and across geographic regions. The findings used the general population of persons who are legally blind or visually impaired as a reference level for access rates and did not, as in previous research, have to speculate that African Americans in the general population would be

expected to access VR at a higher rate because of the known higher incidence of visual impairments among African Americans (Prevent Blindness America, 2002; Schmeidler & Halfmann, 1998). Two further issues need to be considered: the size and importance of the "higher representation" effect and why it may be occurring.

Cohen (1988) provided investigators with a frame of reference for appraising differences among proportions (or percentages) in terms of "small," "medium," and "large" differences. A "small" difference is about 5% to 10%, a "medium" difference is about 20% to 25%, and a "large" difference is in the range of 35% or greater. Given these benchmarks, our differences would be considered "small" in terms of effect size. Kirchner, Schmeidler, and Todorov (1999) adopted a similar scheme for evaluating percentage differences in their study of the employment of persons who are visually impaired using NHIS-D data and did not call attention to differences that were much smaller than 10% because "they are a weak basis for policy decisions" (p. 13). However, they did temper this view: "Setting a threshold of importance for policy, and identifying at what points to call attention to findings of greater policy importance, are 'judgement calls' based on convention unless, ideally, theory or experience provide compelling alternatives" (p. 13). The direction of contemporary research and experience stresses that even "small" differences are important for a thorough understanding of racial and ethnic

influences in access to VR for persons who are visually impaired.

## Conclusion

This study was the first attempt to compare the percentages of minorities who access VR with the percentages of minorities in the population who are visually impaired. We found that African Americans access VR at a higher percentage rate than their percentage in the population of those who are visually impaired. A review of Title I state plans indicated that VR agencies have implemented a variety of strategies to increase outreach to minorities with visual impairments (Steinman et al., 2003). Although a higher access percentage for African Americans may be attributed, in part, to the success of these outreach efforts, other researchers have suggested that higher participation rates are related to the social disadvantages experienced by racial and ethnic minorities (Bolton & Cooper, 1980). It is likely that such disadvantages do not begin with contact with the VR system. Rather, they exist in a general social context. Thus, we suggest that our finding of the "higher representation" of African Americans in VR may be associated with preexisting socioeconomic disadvantage, and this factor serves to produce a greater motivation to access VR than may be found among persons who are White and visually impaired.

To evaluate this suggestion, we examined

socioeconomic indicators of income and employment from the NHIS-D. We found that for persons who were visually impaired, the family incomes of 72% of African Americans, 60% of Hispanic Americans, and 44% of Whites were less than \$20,000, compared to 42%, 41%, and 19%, respectively, for persons with no visual impairment. Similarly, 30% of African Americans, 42% of Hispanic Americans, and 50% of Whites who were visually impaired reported being currently employed, compared to 69%, 69%, and 78%, respectively, of persons with no visual impairment. These preliminary data support the hypothesis that the "higher representation" of African Americans in VR is associated with preexisting socioeconomic disadvantages that are related to possible lower family incomes and higher unemployment. Other disadvantages also may exist, such as the lack of health insurance, a possible higher number of single-parent families, and greater receipt of public support among minority individuals.

In addition to these disadvantages, racial and ethnic differences in accessing VR may be related to the self-perceived need for services (e.g., preference and use of alternative support systems); the degree of comfort in applying for governmental services; sources of referral to VR; and other personal characteristics, such as age and gender. For example, Warren, Giesen, and Cavenaugh (in press) found that African American women aged 55 and older who are legally blind, in comparison to White women, are not proportionally

accessing VR. Differences in access such as these may have implications for both practice and research. Future research should provide a more thorough and expansive investigation of the potential determinants of access, as well as move to the next step in the VR process—acceptance—as influenced by the race and ethnicity of the visually impaired consumer.

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**J. Martin Giesen, Ph.D., senior research scientist, Rehabilitation Research and Training Center on Blindness and Low Vision (RRTC B/LV), and professor, Department of Psychology, Mississippi State University. P.O. Drawer 6189, Mississippi State, MS 39762; e-mail: <[jmg1@ra.msstate.edu](mailto:jmg1@ra.msstate.edu)>. Brenda S. Cavenaugh, Ph.D., CRC, director of research and**

*associate research professor, RRTC B/LV, Mississippi State University, P.O. Drawer 6189, Mississippi State, MS 39762. William K. Sansing, M.S., CRC, research associate II, RRTC B/LV, Mississippi State University, P.O. Drawer 6189, Mississippi State, MS 39762. Address correspondence to Dr. Giesen.*

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